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CLAIMS

1. Blow moulding apparatus for the production of hollow bodies of plastic material, obtained from respective preforms, comprising:

15 - at least a blow-moulding die (100) containing a respective plurality of cavities for blow moulding respective preforms,

- a main conduit (1) for supplying gas into the cavities provided inside the blow-moulding die,

- a low-pressure gas supply source (103) connected to said main conduit (1) via a respective first supply channel (101),

20 - a controlled valve (102) associated to said first supply channel,

- a high-pressure gas supply source (104) connected to said main conduit (1) via a respective second supply channel (105),

- a second suitably controlled valve (106) associated to said second supply channel,

25 **characterized in that** it comprises means for detecting and measuring the presence or absence of a gas flow passing through said second supply channel (105) at a pre-determined moment after the blow-moulding phase has started.

30 **2. Blow moulding apparatus according to claim 1, characterized in that** said means comprise a differential pressure measuring device.

3. Blow moulding apparatus according to claim 2, **characterized in that** said differential pressure measuring device comprises:

- two at least partially hollow tubes (3, 4) arranged so as to extend crosswise across said second supply channel,
- 5 - said tubes being positioned in different sections, i.e. one (3) situated at a more downstream location and the other (4) at a more upstream location along the flowpath of said second supply channel (105),
- each such tube being provided with a respective port (5, 6) on a side of the respective surface thereof,
- 10 - each one of said ports being associated with a respective pressure sensor (7, 8) for sensing the pressure as measured inside the respective tube.

4. Blow moulding apparatus according to claim 3, **characterized in**
15 **that** one port (5) is oriented against the direction of flow of the gas flowing in from the high-pressure gas supply source (104), and the other port (6) is oriented in agreement with said gas flow direction, in such a manner that said ports are exposed to at least part of the dynamic pressure and at least part of the dynamic negative pressure entrained by said gas,
20 respectively.

5. Blow moulding apparatus according to claim 2, **characterized in that** said differential pressure measuring device comprises:

- two hollow, mutually aligned tubes (51, 52) arranged so as to extend
25 crosswise across said second supply channel (105), substantially in the same section thereof,
- each such tube being provided with a respective port (53, 54) on a side of the respective surface thereof, said ports being aligned with the direction of flow of said gas, but oriented in a substantially opposite
30 manner,
- each one of said ports being associated with a respective pressure sensor (7, 8) for sensing the pressure as measured inside the respective tube.

6. Blow moulding apparatus according to claim 2, **characterized in that** said differential pressure measuring device comprises:

- a single hollow tube (62) arranged so as to extend crosswise across said second supply channel,

5 - said tube being provided with two distinct ports (60, 61) in the surface thereof,

- in which a first port (60) is oriented against the direction of flow of the gas flowing in from the high-pressure gas supply source, and the other port (61) is oriented in agreement with said gas flow direction, in such a
10 manner that said ports are exposed to at least part of the dynamic pressure and at least part of the dynamic negative pressure entrained by said gas, respectively.

7. Blow moulding apparatus according to claim 6, **characterized in that** said single transversally arranged tube (62) is closed internally by an
15 appropriate partition wall (63) provided at a location between said first port (60) and said second port (61), in such a manner that in said single tube there are created two distinct chambers (65, 66) opening independently into said second supply channel (105).

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8. Blow moulding apparatus according to any of the preceding claims 5 to 7, **characterized in that** said single tube or said two tubes is/are provided with two non-communicating inner cavities, and said differential pressure measuring device (10) comprises two distinct pressure sensors
25 for detecting the pressure within said two cavities.